

REMARKS

Claims 1, 4, 6-9, 11-12, 14-21, 25-29, 32-38, 41-49, 52, 53 and 55-59 are presently under consideration. Claims 1, 21, 38 and 49 have been amended as shown on pp. 2-13 of the Reply. No new matter has been added.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Allowable Subject Matter

Applicants' representative thanks Examiner Dean for his indication that independent claims 21 and 49, and the claims that depend therefrom, respectively, recite allowable subject matter.

II. Rejection of Claims 1, 4, 6-9, 11-12, 14, 38 and 41-44 and 48 Under 35 U.S.C. §103(a)

Claims 1, 4, 6-9, 11, 12, 14, 38 and 41-44 and 48 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson, et al. (US Publication No. 2003/0050008, "Patterson") in view of Lapaille, et al. (US Patent No. 6,539,214, "Lapaille") and in further view of Dai, et al (US Publication No. 2004/0127158, "Dai"). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, Lapaille and Dai, alone or in combination, do not teach or suggest each and every feature of claims 1, 4, 6-9, 11, 12, 14, 38 and 41-44 and 48.

By way of general background, the subject application relates to compensating for noise in a return link of a satellite communications system without changing an interference relationship among a plurality of terminals employing the return link. More particularly, a terminal can adjust a data rate, for a message, based on a change in the quality of the return link signal, wherein a signal-to-noise ratio can be employed as a measure of the quality of the return link signal and used as a metric for determining how to adjust the data rate to compensate for changes in the link conditions. To these and related ends, independent claim 1, recites, in part *"receiving a feedback signal at the terminal, from the gateway, the feedback signal indicating at least one of the signal-to-noise ratio for the return link as measured at the gateway or the change in the signal-to-noise ratio for the return link as measured at the gateway; adjusting a data rate, at the terminal, for a message sent from the terminal via the return link based on the"*

change in the return link signal quality, without changing the interference relationship among the plurality of terminals, wherein the adjusting the data rate increases the return link signal quality in response to a degradation of the return link signal quality.” Independent claim 38 recites similar, but not identical, features. Patterson, Lapaille and Dai, alone or in combination, do not teach or suggest at least these novel features.

Rather, Patterson merely discloses a system in which one or more earth-fixed user terminals simultaneously transmit over a reverse link to their respective gateways via a satellite (See Abstract, ¶ [0008] – [0013] and [0095] – [0100] of Patterson). The Office Action cites Patterson as disclosing “receiving a feedback signal at the terminal, from the gateway, the feedback signal indicating at least one of the signal-to-noise ratio for the return link as measured at the gateway or the change in the signal-to-noise ratio for the return link as measured at the gateway,” as recited in independent claim 1. However, the cited portions of Patterson merely state that “The user terminals and gateway may use the MAC-layer protocol to negotiate the appropriate power level, modulation order, FEC coding rate, symbol rate, and time-slot assignments on the reverse link” (See ¶ [0101] of Patterson). Clearly, negotiating appropriate power level, modulation order, FEC coding rate, symbol rate, and time-slot assignments on the reverse link via the MAC-layer protocol, **does not establish receiving a feedback signal at the terminal, wherein the feedback signal indicates the signal-to-noise ratio or change in signal-to-noise ratio at the gateway.** In addition, at page 4, the Office Action concedes that Patterson is silent regarding a signal-to-noise ratio and identifying a change in signal quality based on interpreting the signal-to-noise ratio at the gateway. Patterson cannot both teach receiving a feedback signal that indicates the signal-to-noise ratio or the change in signal-noise ratio at the gateway, and simultaneously be silent regarding a signal-to-noise ratio. Therefore, Patterson cannot and does not teach or suggest at least the aforementioned novel features of independent claims 1 and 38.

The Office Action cites Lapaille to make-up for the aforementioned deficiencies of Patterson. However, Lapaille does not cure the deficiencies of Patterson with respect to independent claims 1 and 38. Rather, Lapaille merely relates to adjusting transmission power of a terminal based on an estimated signal-to-noise ratio (See Col. 2, ln. 55 – Col. 4, ln. 29 of Lapaille). In particular, Lapaille teaches estimating a noise power on all received codes, and estimating the signal-to-noise ratio for each code (See Col. 2, ln. 55-58 of Lapaille). Clearly,

estimating the signal-to-noise ratio for each code based on an estimation of noise power on the received codes, is distinguishable from receiving a feedback signal at the terminal, wherein the feedback signal indicates the signal-to-noise ratio or change in signal-to-noise ratio at the gateway. Furthermore, Lapaille teaches adjusting the transmission power of the terminal based on the estimated signal-to-noise ratio. Therefore, Lapaille teaches away from the subject innovation, because increasing the transmission power of one terminal would have an effect on an interference relationship of a plurality of terminals sharing the same communications link. Claim 1 recites, in part, “*adjusting a data rate, at the terminal, for a message sent from the terminal via the return link based on the change in the return link signal quality, without changing the interference relationship among the plurality of terminals.*” Independent claim 38 recites similar, but not identical, features. The disclosure of Lapaille cannot be rectified with independent claims 1 and 38.

Moreover, the Office Action cites Dai attempting to cure the aforementioned deficiencies of Patterson and Lapaille. However, Dai does not make up for the deficiencies of Patterson and Lapaille with respect to independent claims 1 and 38, as follows. Dai relates to a system having a fallback mode of operation, during which uplink signals are transmitted at a reduced data rate (See Abstract and ¶ [0007] of Dai). More particularly, Dai teaches feedback signals produced by the satellite instructing a terminal to switch into the fallback mode (See ¶ [0025] – [0027] of Dai). Clearly, obtaining feedback signals from a satellite instructing a terminal to switch into fallback mode, **does not establish receiving a feedback signal at the terminal, wherein the feedback signal indicates the signal-to-noise ratio or change in signal-to-noise ratio at the gateway.** In addition, Dai teaches away from the subject innovation, because the determination to switch the terminal into the fallback mode is made at the satellite. In contrast, in claim 1 the terminal adjusts the data rate to increase “the return link signal quality in response to a degradation of the return link signal quality” identified at the terminal. The disclosure of Dai cannot be rectified with independent claims 1 and 38.

In view of at least the foregoing discussion, applicants’ representative respectfully submits that Patterson, Lapaille, and Dai, alone or in combination fail to teach or suggest all the novel features recited in the independent claims 1 and 38 (and the claims that depend therefrom). Accordingly, withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 17 Under 35 U.S.C. §103(a)

Claim 17 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson (US 2003/0050008) in view of Lapaille (US Patent No. 6,539,214) in view of Dai (US Publication No. 2004/0127158) and in further view of Hogberg, et al. (US Patent No. 6,198,780, “Hogberg”). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, Lapaille, Dai and Hogberg, alone or in combination, do not teach or suggest each and every feature of claim 17.

Claim 17 depends from independent claim 1. The Office Action cites Hogberg as allegedly disclosing a messaging time slot among a plurality of time slots in each of a series of time frames, including initiating the message at a random point within a particular messaging time slot. However, Hogberg does not cure the deficiencies of Patterson, Lapaille, and Dai noted above with respect to independent claims 1 and 38.

Therefore, the proposed combination of Patterson, Lapaille, Dai, and Hogberg cannot and does not teach or suggest each and every element of independent claim 1 (or claim 17 depending from claim 1). Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 15-16, 18-20 and 45-47 Under 35 U.S.C. §103(a)

Claim 15-16, 18-20 and 45-47 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Patterson (US 2003/0050008) in view of Lapaille (US Patent No. 6,539,214) in view of Dai (US Publication No. 2004/0127158) and in further view of Xie, et al. (US Patent No. 6,781,978, “Xie”). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Patterson, Lapaille, Dai and Xie, alone or in combination, do not teach or suggest each and every feature of claims 15-16, 18-20 and 45-47.

Claims 15-16 and 18-20 depend from independent claim 1, and claims 45-47 depend from independent claim 38. The Office Action cites Xie as allegedly disclosing the feature of suspending a message if a current messaging time slot in a current time frame expires before the message is complete; and returning the message in a subsequent messaging time slot in a subsequent time frame. However, Xie does not cure the deficiencies of Patterson, Lapaille, and Dai noted above with respect to independent claims 1 and 38.

Therefore, the proposed combination of Patterson, Lapaille, Dai, and Xie cannot and does not teach or suggest each and every element of independent claim 1 and 38 (or claims 15-16, 18-20 that depend from claim 1 and claims 45-47 that depend from claim 38). Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [QUALP802USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution; the Examiner is invited to contact Applicants' representative at the telephone number below.

Respectfully submitted,
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